

## PLANT DISEASE EXHIBIT CASES.\*

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Recently the writer had occasion to prepare various sets of plant disease exhibit frames or cases for county and state fair exhibition purposes. Numerous types of trays, boxes and frames of various shapes and sizes have been given a trial by the writer, but the type to be described in this article, appears to be the most practical and serviceable for exhibiting specimens other than those which must be preserved in jars. In order to meet the requirements which are essentially necessary for an attractive, but still serviceable plant disease exhibit case, the following things must be taken into consideration:

1. The exhibit must withstand rough handling in shipping or otherwise.
2. The size of the shipping boxes or trunks in which the cases are packed, must comply with the compulsory regulations of railroad companies, if one wishes to take them along as baggage. Boxes or trunks beyond a certain length will not be accepted by railroad companies.
3. One person should be able to handle these frames without difficulty.
4. They should be constructed of light material, but still they must be durable.
5. Glass should be avoided on account of its fragility and weight. Celluloid is more satisfactory.
6. The frames should be constructed so as to withstand stacking in a box or trunk when shipping from place to place.
7. The case should be of a size which will accomodate two types of specimens: (1) entire cereal plants; and (2) fragments of plants, such as leaves affected with spots, cankers on limbs or twigs, etc.
8. They should be deep enough to accomodate such pathological specimens as cankers on limbs; but, on the other hand, so designed that they will satisfactorily accomodate cereals, leaves, etc.
9. They must appear neat and attractive.
10. The cost of construction should be reasonable.

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In order to meet the above requirements, the writer attempted to construct a case which is not expensive, yet attractive and well designed to display plant diseases to the best advantage.

A working plan of this case is shown on Fig. 3. The outside measurements of the case are 24" x 40," the inside measurements being 22½" x 38½". The sizes of the two kinds of partitions

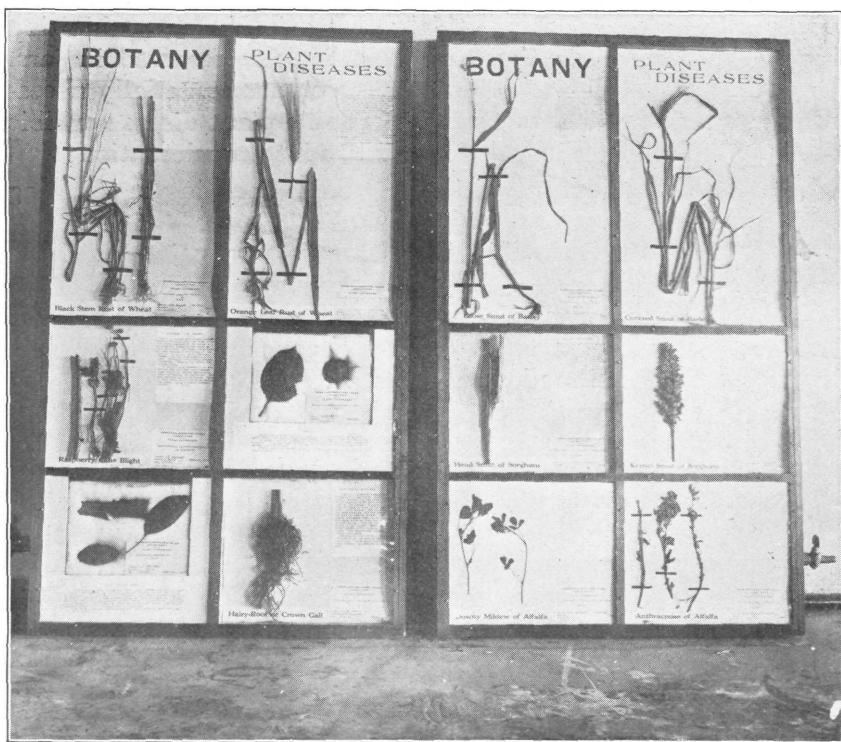


FIG. 1. Exhibit case showing specimens of two sizes.  
(Photo by L. E. Melchers.)

are 9¼" x 11" for the smaller, and 11" x 19" for the larger. The arrangement of the partitions may be changed to meet the requirements. Besides the arrangement as illustrated, either eight compartments 9½" x 11", or four 19" x 11", may be made. The 19" x 11" size is best adapted for such specimens as cereals, weeds, etc., while the smaller are sufficiently adequate for the majority of pathological specimens, such as cankers, leaf-spot diseases, etc. See Fig. 1.

Fig. 2 illustrates a frame of similar construction, but designed for displaying photographs. The trays is only one-half inch deep. A quarter-inch, quarter-round molding is used to hold the celluloid and cardboard mounting in place. The crosspieces are likewise quarter-inch, quarter-round strips. The celluloid protects the photographs, and may be wiped off with a damp cloth without injury to itself or photographs.

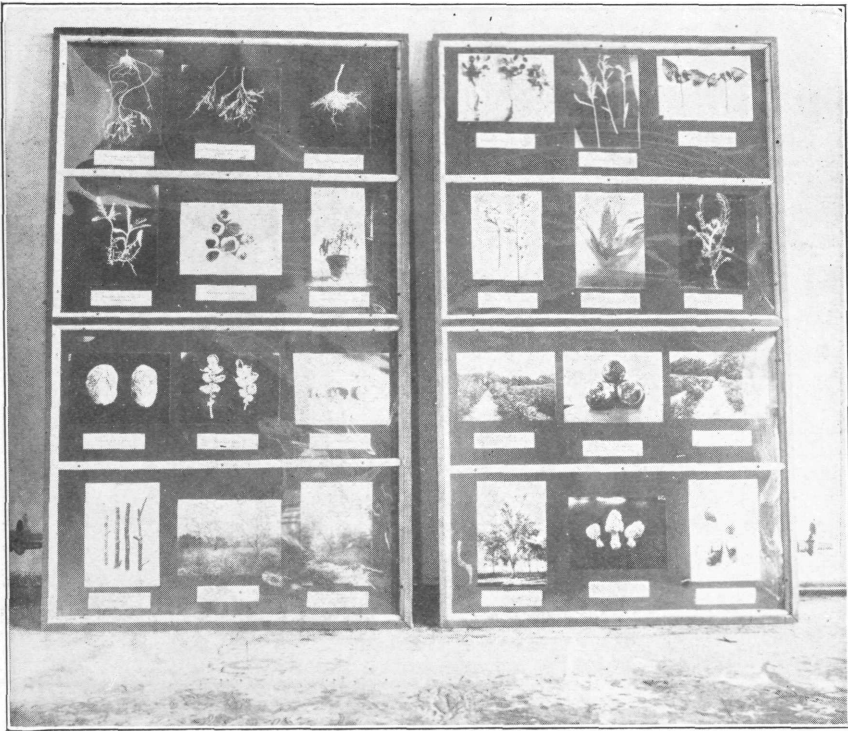


FIG. 2. Exhibit case showing arrangement for photographs.  
(Photo by L. E. Melchers.)

#### PREPARATION OF MATERIAL FOR EXHIBIT CASE.

Various types of plant disease material may be placed in a case of this design. Most of the specimens shown in the accompanying illustration were dried and pressed. These were glued on, and fastened by means of tape to three-ply white cardboard, of the proper dimensions, in the ordinary manner. Where bulky specimens, such as raspberry canes, Kafir heads, etc., were used, fine wire was employed.

The writer finds that Riker specimen mounts,  $6\frac{1}{4}" \times 8\frac{1}{4}"$  or larger, are well adapted for some purposes in connection with these canes.

Cankers of fruit trees, plaster-cast specimens, fragile specimens, or specimens contained in glass tubes, are completely protected and kept intact, if first put into one of these mounts, and then placed into one of the compartments. If Riker mounts are used, they must be fastened into place inside the

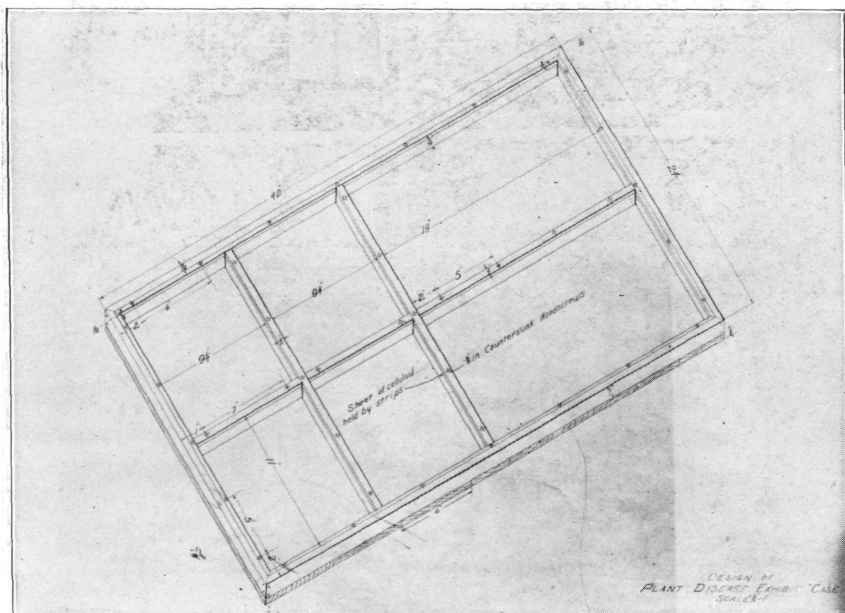


FIG. 3. A working plan for a plant disease exhibit case.

compartment, by nailing blocks of wood, as braces, up against the sides of the Riker mount. The nails are driven through these blocks and into the bottom of the frame. The wooden blocks act merely as braces to prevent the mount from shifting in the compartment.

The different specimens will naturally vary in thickness. The mounted specimens should be in close contact with the celluloid. In order to attain this, cotton is used to fill up the difference in depth between the thickness of the specimen and the depth of the compartment. Where Riker mounts are

employed, the blocks and intervening spaces are covered and filled with cotton. After the mounted specimens are placed into their respective compartments, the celluloid should be placed over one-half of the frame. The sheets of celluloid comes in sheets 20" x 50". One sheet will cover the entire frame, but necessarily in two pieces, allowance being made for overlapping at the center crosspieces and fastening to the edges of the frame. (See working plan). For the specimen cases, oak strips  $3/16"$  x  $5/16"$  are employed to fasten the celluloid in place, these being a part of the frame. The other strips for the cross-partitions are  $1/2"$  wide. These strips are fastened with small screws, (counter sunk), which pass through the celluloid and into the frame proper.

The weight of one of the specimen cases when completed and containing the specimens, is about 13 pounds. The total cost is approximately \$2.50.

The Material Necessary for the Construction of One of the Specimen Cases:

Oak,	16' x $1\frac{1}{2}"$ x $1\frac{1}{4}"$
Cypress,	8' x $1\frac{1}{2}"$ x 1"
	12' x 1" x $\frac{3}{4}"$
	12' x $1\frac{1}{2}"$ x 6"
	2' x $1\frac{1}{2}"$ x 4"
Celluloid,	20" x 50" (10/1000" thick)
Screws,	32, gun-metal, flat-headed, $\frac{3}{4}"$

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